ASSESSMENT OF EX-POST TRAINING EFFECTIVENESS IN ETHIOPIA: A CASE STUDY IN NORTH GONDAR

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Abstract *Training effectiveness study was conducted in North Gondar Zonein 2013. The purpose of the study was to determine the effectiveness of different technology-based trainings provided to rural farmers on the basis of indicator outcomes (knowledge, skill, confidence and commitment). The finding of this study revealed that the level of awareness, knowledge, and skills of participating farmers have improved on various technical subjects. Although technical effectiveness of trainings is better in terms of knowledge improvement and job performance and average in confidence and skill improvement, there is an urgent need for skill development of farmers who are looking for alternative improvement options in the quality of training. Recommendations include need based hands-on training and establishing functional farmers training centres.*

Keywords: *Training, Effectiveness, Knowledge, Skill, Hands-on training*

INTRODUCTION

Agricultural development is largely determined by the productivity of physical resources (land, water) and human capitals (MOFED, 2006). Agricultural productivity requires key interventions in soil fertility, land use and management, optimal use of external inputs, etc. (Asenso-Okyere *et al.*, 2008). These interventions highly demand trained farmers who can adopt appropriate agricultural technologies. Essential to this process is the aligning of agricultural short term trainings with the larger national development agenda through targeted training (Davis *et al.,* 2007). The need to integrate different packages of agricultural technologies is highlighted through training of farmers. The fate of the performance of agricultural sector depends on the integration of farming systems, farmer training, entrepreneurial capacities, and the strengthening of the supporting institutional framework (FAO, 2007).

Furthermore, farmers must be sufficiently armed with the capability of application of proven agricultural technologies relevant to their local context. Agricultural training and education arethe basic strategic intervention areas linked to the Millennium Development Goals and reduction of poverty objectives (Cabral & Scoones, 2006). According to the available literature, limited of agricultural training is constraint to income diversification (Minot *et al.*, 2006; Ngigi, 2009; EEA/EPRI, 2010), adoption of technology (Ruthford, 2008), transformation of subsistence agriculture to commercial one (Blank *et al.*, 2007). Strengthening the capacity of rural communities through short term trainings is necessary to combat the prevailing rural poverty. Since short termtechnicaltraining has relevant implication to improve knowledge and skills of the rural farmers to sustain their livelihoods (FAO, 2007),the assumption to such agricultural training is that it enables rural farmers respond to their priority needs of appropriate technologies. The farmers themselves need appropriate training, which is focused on practical and needy problems in order to increase their capacities.

Consequently, it has been reported that different subject matter short term trainings in the areas of crop, livestock and natural resources have been provided to rural farmers. Essentially, these trainings were implemented in various time, length, and content and targeted: (1) to equip farmers with adequate knowledge and skill in agriculture, (2) to enable farmers who are capable of properly using the natural resources and modern technology, produce market competitive products, as well as profitable in their agricultural activities, (3) to produce farmers capable of transforming their production from subsistence level to market based production system thereby increase their income and livelihood. Such types of capacity building intervention are in line with national and

regional development strategies (MoFED, 2006) to improve living standard of rural community through increased crop and animal productivity (MoARD, 2009).

Therefore, conducting systematic assessment about the effectiveness of these trainings was the focus of this study. The study was delimited to identification of the effectiveness of different trainings provided by different stakeholders (public institutions, bilateral programs, non-governmental organisations). In the context of this study training's effectiveness was defined as to what extent trainings have produced its desired results. Similarly, it was assumed that effective training has a direct contribution to farmers' capacity building and ability to self-sustain their skills. This type of training effectiveness assessment is quite important since the performance of whatever short term trainings provided depends mainly on the internal confidence built among farmers through the knowledge and skill gained from short term training.

Objectives of the Study

Various capacity building trainings have been provided to rural farmers to capacitate them through short term trainings. The major objective of this study was to undertake training effectiveness assessment so that it would provide an opportunity to understand nature of trainings, learning process and lessons learned for further enrichment. The specific objectives of the study were:

1. To assess the effectiveness of trainings towards job performance, knowledge and skill improvement as perceived byparticipant farmers
2. identify areas of concern that impede the implementation of short term trainings

Methodology

Training effectiveness study was conducted in North Gondar Zone Amhara Region, Ethiopia in 2013. It was conducted to learn lessons by considering the key elements of training effectiveness through indicator criteria focusing on the results of the trainings and not on the process of training. The studystarted by first identifying the questions to be answered by the evaluation: What performance gains are being realized? Is the need for training being addressed in the best way possible? This would become the base for understanding of success of previous trainings and future capacity needs at local levels. The understanding of the success of trainings and gaps by itself is a continuous process and a mean to the end objectives.

In order to carry out the actual study, both primary and secondary data were collected. Secondary data were sourced from different literature and training need assessment. For primary data collection, questionnaire and focus group discussions were used. Purposive sampling was used to select sample districts considering training compositions and accessibility. In North Gondar there are about total of 20 rural districts. Accordingly, four representative districts(Gondar Zuria, Chilga, Lay Armachiho, and Debark) were selected for primary data collection.

Questionnaire was designed and subject to comment by training providers. Based on the feedback, semi-structured questionnaire was developed. The list of training participants was taken from local development practitioners, and kebele agricultural development agents. In the selection of training participants attention was given to those who are directly participated in agricultural technology based trainings. From the list of training participants a total of 100 respondents were selected randomly. After respondents were selected, interviews were held with them. In addition to collection of primary data using questionnaire, four focus group discussions were carried out. Data from different source were triangulated in order ensure its reliability from different data sources. The qualitative data were organised and described qualitatively, and the quantitative data were analyzed using descriptive statistics.

Results and Discussion

The effectiveness of trainings as witnessed by respondents is shown in Table 1. The effectiveness of trainings in terms of knowledge improvement (77.1%) was effective. This would imply that the trainings provided to farmers were capable of providing rural farmers with the relevant knowledge for wider adoption of appropriate agricultural technologies. Sisay *et al.*'s (2013) finding is consistent with the present finding. It has been argued that trainings have valuable contribution to the transfer of knowledge under rural farmers' context. However, 11.5% of the respondent farmers have reported that the short term trainings were not satisfactory in terms of improving their theoretical knowledge. This might imply that these group farmers relied on their indigenous knowledge and became low users of better and new farm practices and technologies. They are reluctant users of these practices and technologies. This could be challenging for adoption of new technologies as demonstrated by Sisay *etal.* (2013). Efficient short term training is precondition for facilitating adoption of agricultural technologies. In Malawi, training of farmers helps diversify their livelihoods and adopt new agriculture conservation practices that reduce soil erosion, improve water quality, and sequester carbon in the soil (Ngigi, 2009). Thus future trainings to these groups of farmers may require taking into account the existing constraints, efficiency of trainings, mode of training delivery and their felt needs. Future training has to be provided to farmers in an innovative way based on the availability of new technologies.

On the other hand, 22.9% of the respondent farmers have agreed that the contribution of those trainings improved their farming skill and commitment, whereas the majority of farmers (74.6%) were in the middle position towards the effect of those trainings on the improvement of their farming skills and dedication. Only 2.9% of the respondents expressed their dissatisfaction about the contribution of those training to the improvement of their existing skill. This implies that short terms trainings were of theoretical orientation. Focus group participants also recommended practical and hands-on trainings supported with field visits in areas, where feasible, so that farmers can be convinced, and they can understand and catch up the central point of training if exposed to hands-on training with available local resources. Skillimprovement of farmers on certain proven practices and technologies could have income and technology adoption implications. Minot *et al.*'s (2006) finding is consistent to such training implications. Low level of skill training is one of the most important constraints to income diversification among other things. Similarly, Sisay *et al.* (2013) recommended that training supported by practical demonstration must be arranged to farmers before any technological intervention is taken place.

Furthermore, the effectiveness of previous trainings was evaluated against its contribution to improve trainees (farmers) job performance. The findings of this study, in this regard, revealed that 68.6% of the respondents have given their positive witness. On the contrary 14.3% of them have reported that the trainings have contributed less to their farming business. More than 17% of them were not confident enough to say that short term trainings were relevant or irrelevant to their performance capacity. An important implication from this finding is that relevance of trainings has to be checked in advance before any training is designed.Utmost importantly, short term trainings were primarily provided to improve job performance. Jonathan (2010) agrees that providing training can improve farmers' competitiveness and determine the probability of their success. Similarly, the training need assessment study report by SRMP (2010) confirmed that trainings have to be geared towards commercial oriented development interventions.

Currently, the government of Ethiopia is implementing rural development strategy with the aim of changing subsistence oriented smallholder farming through technology-based trainings. Provision of these trainings to farmers has been designed to produce skilled farmers who can transform the country's agricultural production from subsistence to market-oriented production systemand bring a sustainable economic growth in the country (MoARD, 2009). This line of development strategy is deeply trusted in the Rural Development Policy and Strategy document of Ethiopia (FDRE, 2001) to move towards commercialisation of subsistence agricultural production system.

The perception of farmers was considered as a criterion to evaluate the effectiveness of technology-based short term trainings. According to the data presented in the Table 1, the respondents were expressing their perception as very effective (21.1%), effective (26.3%), averagely effective (35.1%), somewhat effective (6.9%), and very little effective (8.6%). More than 47% of respondents perceive the trainings as effective. This would tell us the majority of the respondents had good perception to the effectiveness of the training. However, joint training of husbands and wives was recommended by focus group participants. Though mentioned by few respondents, joint training of both sex was justified to promote active participation of women in the local development efforts by introducing improved technology that reduces women's exhaustive work burden as well as to increase household income.

With respect to the confidence of farmers in the application of their knowledge and skill,45.7%, 45.7%, 2.9% and 5.7% of the respondents expressed the trainings as very effective, effective, average, somewhat effective, and very little effective respectively. The changes in knowledge and skill are reflected in the extent of utilisation of acquired knowledge and skill in their daily work. An indicator which shows the extent of utilisation of knowledge and skill was the effort showed by farmers to incorporate some of the innovations in their work plan and scaling up innovations to other farmers. Examples of such cases are maize row planting, use of improved seeds, dairy, fattening, wood lot, small scale irrigation practices. In discussing this

Table 1: Effectiveness of Trainings Based on Some Training Outcome Indicators (100)

Parameters	Farmers Response in %				
	Very effective	Effective	Average	Somewhat effective	Very little effective
Perception to effectiveness	22.1	26.3	35.1	6.9	8.6
Improvement in knowledge	31.4	45.7	11.4	8.6	2.9
Improve job performance	20	48.6	17.1	8.6	5.7
Confidence in applying KSA[1]	17.1	28.6	45.7	2.9	5.7
Skill and dedication improved	8.6	14.3	74.3		2.9

consistently, Rutherford(2008) confirmed that Broad Bed Maker technology impact assessment study in Ethiopia has found disappointing households welfare improvement among users of the technology due to insufficient training.

The application of knowledge and skill into a practical reality requires functional linkage with rural serviced providers. While most of the trainings were targeting farmers, the linkage with some rural institutions such as input suppliers, credit institutions become unavoidable. According to Asenso-Okyere (2008), training services should reach beyond technology transfer to facilitation, and beyond training to learning. Some specialised trainings targeting suppliers of agricultural inputs, such as credit utilisation and management, purchase of agricultural commodities and inputs have become worth mentioning. Thus credit service coupled with technology-based trainings will have an immense contribution to the improvement of livelihood. During data collection many of the respondents were insisting on access to credit services to the wider application of their knowledge and skill.

Challenges and Prospects

From the above discussion one can observe that effectiveness of short training as measured by four indicator outcomes (knowledge, skill, confidence and commitment), was not free from some flaws. Focus group result revealed that few short term trainings were often unfocused, fragmented and of low-intensity nature. It might be difficult to change the working culture and attitude of the rural agrarian society to improve the income and living standard of the rural community with such disorganised short term trainings. The establishment of opportunities of training for farmers gearing towards the efficient implementation of integrated technology packages should not be overlooked.

In this regard, farmers training centers may have an important role in promoting focused, organised and intensive trainings. Nowadays the use of Farmers' Training Centers as a hub for knowledge sharing is at an early stage and the recorded achievements are not consistent across all peasant associations. Looking for alternative farmers trainingopportunities like farmers' training centers becomes preferred option, which is timely and relevant in today's dynamic context. To bring positive change for rural farmers (MoARD, 2009), farmers' training centers are pertinent to make farmers who are capable of: (1) adopting technology easily and promptly, (2) comparing different technologies and selecting the most productive technology, (3) analyzing market information and devising a plan according to market condition, (4) engaging in non-agricultural activities, (5) using local natural resources and knowledge preserving them, and (6) saving and growing economically feasible crops. Consistent to this, Blank *et al.*(2007) and Ngigi (2008) noted that the establishment of training and demonstration centers would assist farmers in making the transition from subsistence to commercial producer.

Moreover, Nepotism was reported widespread in training participant selection which was mostly done by watershed committee and in minor cases village development agents. This was the dominant view expressed during focus group discussions. Lack of bylaw enforcement mechanism, beneficiary selection criteria, system of overseeing committees' activities and incentive mechanism for best performing Watershed Committee members have been identified as major bottlenecks that affect negatively the function and operation of the watershed committees.

Conclusion

The purpose of this study was to determine the effectiveness of different technology-based trainings provided to rural farmers' public institutions and their importance for the successful performance of livelihood outcomes. To determine the success of trainings provided to rural farmers, a questionnaire was prepared and utilized for training effectiveness evaluations using some competency parameters.

Individual interviews and discussions with farmers revealed that the level of awareness, knowledge, and skills of participating farmers has improved on various technical subjects. Moreover improvement in knowledge and skill has also been reported by farmers who attend successive trainings given by public sectors. Though it is difficult to measure the level of knowledge and skill that has resulted due to all the interventions, the researcher noted an improvement in knowledge and skills by observing farmers' practices in converting knowledge into action. In general farmers involved in direct or indirect capacity building interventions were seen to apply the acquired knowledge and skills to manage their farms.

The continued need for individual development can be traced to numerous demands, including enhancing farmers' skills and knowledge, and increasing productivity (Wiggins *et al.*, 2013). Training is one of the most pervasive tools for enhancing the productivity of individual farmers. Given the importance and potential impact of training on agricultural development, it is important that farmers have a better understanding of new knowledge and skills for wider contribution to the current development efforts.

The findings of this study have strong implications for continuous knowledge and skill development for rural farmers involved agricultural sector. Overall, farmers targeted for short term training were averagely confident to apply their technical knowledge, skill and attitude. Similarly they were

averagely endowed with agricultural technology application skills. They exhibited better perception to those technical trainings towards its better contribution in technical knowledge. Although technical effectiveness of trainings is better in terms of knowledge improvement and job performance and average inconfidence and skill improvement, there is an urgent need for skill development of farmerswho are looking for alternative improvement options in the quality of training. An implication relative to the present study exists that low levels of effectiveness in knowledge (11.5%), improved job performance (14.3%), confidence in application of KSA (8.6%) and skill and dedication improvement (2.9%) may cause negative consequences for adoption and application of technologies. Farmers are required to demonstrate their knowledge and skills in the application of appropriate agricultural technologies so that they remain competent. Adoption and application of any agricultural technologies require certain knowledge and skill competency. Sisay*etal.*'s (2013) finding is consistent with this finding. This may led to the conclusion rural communities should be exposed to continuous skill training in an innovative way.

Incremental learning theory tells us that people build their knowledge and skills by adding to what they already know (Wentling, 1999). Though knowledge acquired from short term training is vital to the acquisition of basic knowledge and skills, the role of institutionalised continuous training is unavoidable in the acquisition of knowledge and skillssince knowledge and skills acquired from short term trainings is subject to change continually (Stone, 1997). Therefore, institutionalised training should be considered to fill the competency gap of farmers persistently. At the local level, short-term training through Farmers Training Centers can be used for future competence development opportunity to redress the drawbacks of the existing short term trainings: unfocused, fragmented and low-intensity nature. Thus, a series of Farmers Training Centersbased training programme deserves attention to fill the competence gaps of farmers.

Improving the effectiveness of trainings and making them more relevant, demand driven, and accountable to farmers is vital for increasing productivity. The focus should be on building the capacity of farmers to make decisions on the best use of available technology coupled with appropriate trainings to enable them the use of specific technologies. International experiences suggest that efforts to increase the supply of technologies suited to different environments and farm types provide high payoffs, especially when coupled with improved farmer capacity to experiment (Asenso-Okyere, 2008). For effective and efficient modes of delivery of appropriate technologies, relevant trainings have to be provided beforehand.

Recommendation

Based on the findings of this study, recommendations include:

1. **Need based hands-ontraining:** training has to be carried out based on training need assessment report just to improve the validity of the current observations and yield more accurate and effective training. Some participants seriously reported that there is no conducive environment to practical exposure and translate their knowledge/skill into practical reality. This may remind us that future training interventions have to be selective on training areas with higher probability for practical implementation after training.
2. **Establishing functional farmers training center**: Though short term trainings are vital and effective, there are still some drawbacks with respect to time management, coverage, use of resources, quality. To equip rural farmers with the knowledge necessary in today's agrarian economy like Ethiopia, it's time to reflect standard farmers training effected through functional institutions like farmers training centers. There areopportunities to establish farmers training centers in each respective localities,equipping their internal facilities reasonably and assisting the management of these institutions. Establishing and strengthening Farmers Training Centers may be a vigorous work initially. However, once the system of farmers training center is on the right track, it is easy to produce competent farmers for rural transformation.

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